

ONS00181  
09/802,726

IN THE CLAIMS

Please amend the claims as indicated below to place the application in better condition for allowance or appeal. All pending claims are written in revised format pursuant to Rule 1.121.

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1. (Currently Amended) A semiconductor component comprising:

a drain region having a trench with first and second sides, a portion of the drain region having a first conductivity type and a first charge density;

a control electrode in the trench;

a channel region of the second conductivity type in the drain region and adjacent to the trench; and

a first region ~~in the drain region~~, having a second conductivity type, and having a second charge density balancing the first charge density.

2. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region; and

a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region.

3. (Original) The semiconductor component of claim 2, wherein the first region is discontinuous.

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4. (Original) The semiconductor component of claim 3, wherein the first portion of the first region is discontinuous.

5. (Original) The semiconductor component of claim 2, wherein the first region is continuous.

6. (Previously Amended) The semiconductor component of claim 5, wherein the first region is continuous from the first surface of the drain region toward the second surface of the drain region.

7. (Previously Amended) The semiconductor component of claim 2, wherein:

the first region is contiguous with the first surface of the drain region; and

the trench is in the second surface of the drain region.

8. (Original) The semiconductor component of claim 2, wherein the channel region is between the first and second portions of the first region.

9. (Previously Amended) The semiconductor component of claim 1, further comprising an electrically insulative layer in the trench between the drain region and the control electrode.

10. (Original) The semiconductor component of claim 1, wherein the control electrode is located only in the trench.

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11. (Previously Amended) The semiconductor component of claim 10, wherein:

the drain region has a first surface and a second surface;

the trench is in the second surface of the drain region; and

the semiconductor component further comprises a second region in the drain region, at the second surface of the drain region, having the first conductivity type, and contiguous with the trench.

12. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

the trench is in the second surface of the drain region; and

the control electrode overlaps the second surface of the drain region.

13. (Previously Amended) The semiconductor component of claim 12, further comprising a second region in the drain region, at the second surface of the drain region, having the first conductivity type, and adjacent to and non-contiguous with the trench.

14. (Previously Amended) The semiconductor component of claim 1, wherein the trench extends into the drain region deeper than the channel region.

15. (Original) The semiconductor component of claim 1, wherein the channel region is absent underneath the trench.

16. (Original) The semiconductor component of claim 1, wherein the first region is absent underneath the trench.

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17. (Previously Amended) The semiconductor component of claim 1, wherein the portion of the drain region is located under the trench.

18. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region;

a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region; and

the portion of the drain region is located between the first and second portions of the first region.

Claims 31-38 are provisionally withdrawn pursuant to a restriction requirement as discussed below.